Economic Specialist Report

United States Department of Agriculture

Forest Service

Fourmile Vegetation Management Project

Eagle River-Florence Ranger District
Chequamegon-Nicolet National Forest

July, 2019

The Chequamegon-Nicolet National Forest provides direct and indirect economic benefits to Wisconsin and surrounding states. Economic benefits contributed to the region around national forest lands include market and non-market opportunities such as harvesting timber, participating in tourism and wilderness activities, collecting balsam boughs, and fishing. Wisconsin timber only contributes $6.8 billion to the economy with it being one of the top 10 industries by employment (Wisconsin Department of Natural Resources, 2016). About 60,480 jobs in Wisconsin are within a Forestry related field (Ibid).

The Fourmile project area is a small portion of the Chequamegon-Nicolet National Forest, which is part of a large economic impact area. This analysis tiers to the social and economic analysis for the Chequamegon-Nicolet National Forest found in the Forest Plan Environmental Impact Statement (EIS) pages 3-306 through 3-364. The Forest Plan EIS addresses the economic sustainability of the local communities including employment, income, and present net value. It takes into consideration recreation and tourism, commercial wood products and sustainable timberlands.

Forest Plan decisions contribute to economic sustainability by providing for a range of uses, values, products, and services. The Forest Plan direction also balances these economic benefits with ecological sustainability. The mix of uses, values, products and services provided by the Forest Plan are measured by representative values indicated by employment, income, industry sectors, portion of economic cumulative impacts, Net Present Value (NPV), and community resilience. These indicators were measured within the defined economic impact area ((USDA Forest Service, 2004, pp. 3-306 through 3-364).

The Fourmile project area is within Forest County, Oneida County, and Vilas County, Wisconsin. Social and economic information for the counties are provided below to put the project in context. A vegetation management project the size of the Fourmile Project is unlikely to have large, measurable economic effects on the surrounding communities. Therefore, it is appropriate to turn to the Forest Plan analysis for effects to tourism and the timber industry on a larger scale. A more appropriate analysis for the scale of this project is to do a financial efficiency analysis which compares the tangible costs and benefits of the Fourmile project.

Background Information on Forest, Vilas, and Oneida Counties

Forest County encompasses approximately 649,005 acres in northeastern Wisconsin. The 2018 population estimate for Forest County was 8,991. The population has decreased roughly 3.4 percent from the 2010 census. The median household income in 2017 dollars is $43,356 ((United States Census Bureau, 2018).

The forest industry (aggregated with agriculture and mining) employs almost 8% of the workforce in Forest County. The leading employer in the county is the health, education, and social services industry, making up almost 19% of the workforce (USDA Forest Service, 2004, pp. 3-320).

Table 1 Forest County's Direct Forestry Related Economic Effects

	Employment	Output	Value Added
Forestry and Logging	118 jobs	$10.3 million	$5.7 million

Pulp and Paper	No active pulp or paper mills		
Sawmills and Wood Products	200 jobs	$43.9 million	$10.4 million
Total	318 jobs	$54.3 million	$16.1 million

(Wisconsin Department of Natural Resources, 2016)

Oneida County encompasses approximately 712,301 acres in northern Wisconsin. The 2018 population estimate for Oneida County was 35,470. The population has decreased roughly 1.5 percent from the 2010 census. The median household income in 2017 dollars is $52,945 (United States Census Bureau, 2018).

The forest industry (aggregated with agriculture and mining) employs 3.1% of the workforce in Oneida County. The leading employer in the county is the health, education, and social services industry, making up almost 23% of the workforce (USDA Forest Service, 2004, pp. 3-320).

Table 2 Oneida County's Direct Forestry Related Economic Effects

	Employment	Output	Value Added
Forestry and Logging	40 jobs	$4.5 million	$3.1 million
Pulp and Paper	631 jobs	$490.9 million	$114.2 million
Sawmills and Wood Products	137 jobs	$27.2 million	$5.9 million
Total	808 jobs	$522.6 million	$123.2 million

(Wisconsin Department of Natural Resources, 2016)

Vilas County encompasses approximately 548,224 acres in northern Wisconsin. The 2018 population estimate for Vilas County was 21,938. The population has increased roughly 2.4 percent from the 2010 census. The median household income in 2017 dollars is $42,720 (United States Census Bureau, 2018).

The forest industry (aggregated with agriculture and mining) employs almost 3% of the workforce in Vilas county. The leading employer in the county is the health, education, and social services industry, making up almost 18% of the workforce (USDA Forest Service, 2004, pp. 3-320).

Table 3 Vilas County's Direct Forestry Related Economic Effects

	Employment	Output	Value Added
Forestry and Logging	205 jobs	$11.1 million	$3.0 million
Pulp and Paper	No active pulp or paper mills		
Sawmills and Wood Products	215 jobs	$46.2 million	$8.8 million
Total	421 jobs	$57.9 million	$12.2 million

(Wisconsin Department of Natural Resources, 2016)

Financial Efficiency Analysis

This section will address the financial efficiency of the Fourmile project. This type of analysis compares projected United States Forest Service direct expenditures with estimated financial revenues (collected from the sale of forest products). This type of analysis helps determine whether the proposed activities represent a prudent means of achieving the resource objectives outlined in the Forest Plan and supplies the Responsible Official with economic context in their

final decision.

The estimated implementation cost of each alternative (as it relates solely to timber harvests) is shown in Table 4. These costs would be spread over the course of approximately 5-10 years until the full implementation of the proposed activities has been completed.

Table 4 Estimated Costs for Implementing Each Alternative (in relation to timber harvesting) in the Fourmile Project

Harvest Activity	Cost/Ac	Alt. 1	Acres	Alt. 2
Sale Prep.	$200	$0	11,607	$2,321,400
Sale Admin.	$50	$0	11,607	$580,350
Subtotal:		$0		$2,901,750
Fuels Reduction				
Rx Burning for Site Prep.	$100	$0	334	$33,400
Ladder Fuel Treatment	$350	$0	229	$80,150
Mastication	$450	$0	317	$142,650
Subtotal:		$0		$256,200
Reforestation				
Mechanical Site Prep.	$120	$0	344	$41,280
Planting	$300	$0	647	$194,100
Manual Site Prep.	$80	$0	6215	$497,200
Release/ Pre commercial Thinning	$250	$0	92	$23,000
Biochar Placement	$350	$0	120	$42,000
Subtotal:		$0		$797,580
Wildlife				
Trail Maintenance	$575	$0	36.1	$20,757
Wildlife Opening Maintenance	$225	$0	334	$75,150
Subtotal:		$0		$95,908
Transportation			Miles	
Temp. Rd Construction per mile	$8,000	$0	.2	$1,600
Perm. Rd Construction per mile	$15,000	$0	1.2	$18,000
Decommission Rd per mile	$1,000	$0	147.2	$147,200
Road Reconstruction per mile	$10,000	$0	46.4	$464,000
Subtotal:		$0		$631,536
Grand Total:		$0		$4,682,237.50
*all cost estimates were generated from interdisciplinary team's experience in their given field.				

Revenues are based on potential timber sale receipts. Revenue figures do not include the benefits that are difficult to quantify, such as recreational opportunities, wildlife habitat, visual quality, and water quality impacts. People place a wide range of values on ecosystems, recreational opportunities, water quality, and wildlife.

The benefits (revenues) realized through timber harvests depend on market value and costs at the time of sale. Before any National Forest timber is sold, it is appraised to estimate the products' fair market value. A timber sale is offered competitively and the contract is awarded to the firm

offering the highest bid. These requirements are in place to help ensure that the government and the public is justly compensated for any timber sold off of National Forest.

Along with how the Chequamegon-Nicolet National Forest usually sells timber (described above), the Chequamegon- Nicolet National Forest has started using more ways to sell timber by the use of Stewardship Agreements and Good Neighbor Authority. These programs allow more work to be done on the National Forest (both harvesting and other resource projects). However these programs do not return money to local governments and return less money to the US Treasury overall. Good Neighbor Authority (GNA) allows the United States Forest Service (USFS) (to enter into contracts/ agreements with States to allow the States to perform forest management on United States Forest Service land. This allows for more management to take place on a landscape basis across mixed ownership. The money earned from timber sales initially goes to the State but a large percentage will come back to the United States Forest Service known as Program Income. This Program Income can be used by the DNR do various other tasks for the United States Forest Service on United States Forest Service land (examples are: doing common stand exams for future NEPA projects, rare plant surveys, wildlife surveys, writing prescriptions, etc.). Therefor this program might not directly bring money to the local communities but it allows more people to be employed with the DNR and more contractors to be hired in the area.
When Stewardship Authority is used, less money is exchanged from the purchaser to the USFS but other project work takes its place to replace the money that is not being put forward for the value of the timber. One could think of this system as a make-shift bartering system, the USFS allows a logger to cut trees on USFS land and the logger in turn does project work (and some money) to pay for the wood they cut. This system, like GNA, brings in less money directly to the local communities but supplies for more work (such road rehabilitation, road reconstruction, culvert replacement, Non-native Invasive Species Treatments, etc.) and jobs (via contractors and local governments) in the area.

For this analysis, the stumpage values were calculated using the base period prices effective July 2019 for the Chequamegon-Nicolet National Forest. Prior to the sale being offered, these base stumpage values may be increased to include estimated stump- to-truck transportation, logging overhead, and road construction costs. The stumpage values do not include bid premiums that could result from competitive bidding for the timber when sold. Ultimately, revenue generated from the Fourmile project could be higher or lower than what is projected here, depending on future market conditions.

Timber sold on National Forest System land would result in measurable revenues to the United States Treasury and local county governments (see Table 5 below). The returns to local governments are payments in lieu of taxes and are based on receipts from National Forest System land. These payments would be made by the federal government to State agencies and would be distributed to local schools. Payments would equal twenty-five percent of the total timber receipts or gross revenues from all non-stewardship or Good Neighbor Authority (GNA) timber sales. The total return to the United States Treasury would consist of revenue from the timber sales less the payment to State and local government. Costs associated with reforestation activities would reduce the total return to the US Treasury.

Table 5 Estimated Financial Return to Local, State, and Federal

Factor	Alt. 1	Alt. 2
Total Harvest Volume (MMBF)	0	45.42
Percentage of Volume in Stewardship	0	~20%
Percentage of Volume in GNA	0	~20%
Gross Revenue	0	$3,903,326
Payments in Lieu of Taxes to Local Government	0	$585,499

Alternative 1 (No Action)
Under Alternative 1 - No Action, there would be no costs incurred from forest management activities. Also, there would be no revenue to the federal or local governments from timber sales. Due to the lack of activity with this alternative, there would be minimal impact to the local economy.

Alternative 2 (Proposed Action)
Comparing Table 4 and Table 5, the cost of Alternative 2 exceeds the timber revenues of the project by roughly $778,912. The estimated costs associated with reforestation activities, such as converting a forest type over to longer-lived species, increasing diversity within a stand through planting and preparing the site for planting, are high. Planting may not be needed to adequately regenerate a harvested stand; however, planting and preparation would be needed to ensure success in attaining the desired tree species composition.

The biggest costs outlined in Table 4 is the implementation costs, projected to be around $2,902,000. It is difficult to reduce these costs due to the rigorous law, regulation, and policy that are followed, ensuring the proper sale of federal resources like timber. The next biggest costs are reforestation (~$811,000) and road activities (~$632,000).

Total economic impacts would be low for this alternative because the forestry industry consists of a small portion of the local economy in Forest, Vilas, and Oneida Counties ((USDA Forest Service, 2004, pp. 3-324 through 3-325). However, this project would supply around $586,000 towards state and local government's Payment in Lieu of Tax funds from just the timber sales.

Economic costs and benefits are important considerations but are not the only or even primary considerations in an environmental analysis. There are many non-market or amenity values associated with the alternatives such as the values of large patches of mature forest and large patches of young forest that will grow into mature patches. Other non-market values include enhancements to habitat conditions, vegetation, riparian areas, and surrounding scenery. There are many benefits and some costs not quantified in this analysis that would tip the scales in either direction.

In conclusion, Alternative 2 would produce roughly $3,904,000 with roughly $586,000 returning to local governments to be used in Lieu of paying taxes. Alternative 1 would forego the cost of the projects but would also forgo any benefits to local economy and governments.

REFERENCES

United States Census Bureau. (2018, July 1). *United States Census Bureau*. Retrieved from Wisconsin QuickFacts by County: https://www.census.gov/quickfacts/fact/table/forestcountywisconsin/DIS010217

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